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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,251	04/03/2001	Mutsuo Nishi	084437/0143	1311

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WASHINGTON, DC 20007

EXAMINER

CHANG, VICTOR S.

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 03/18/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-6

Office Action Summary	Application No. 09/824,251	Applicant(s) NISHI ET AL.	
	Examiner Victor S Chang	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3, 4</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 18, 19 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19, lines 1-2, the phrase "self-recyclable" is vague and indefinite. Applicants have not pointed out any express or inherent support of "self-recyclable" in the specification, nor does the Examiner find the "self-recyclable" being inherently supported by e.g., "porous polyester film".

Claims 18 and 22 are vague and indefinite. In claim 18, it is not clear what is the claimed invention, i.e., the porous polyester film or the display reflector? Similarly, in claim 22, it is not clear what is the claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 696684).

Sasaki's invention is directed to a porous polyester film (Abstract). Sasaki teaches that the film comprises a porous polyester layer (layer A) comprising a polyester and a thermoplastic resin incompatible with said polyester, and a polyester film (layer B) comprising a polyester and inorganic fine particles (column 3, lines 5-10).

For claim 1, although Sasaki does not expressly teach the ratio of the number of voids to the film thickness, it is noted that Sasaki does teach that the mixing percentage of the incompatible thermoplastic resin relative to polyester depends on a desired amount of voids. It is preferably 3-20 wt % of the film as a whole. When it is less than 3 wt %, the amount of voids cannot be increased to a desired level. When it exceeds 20 wt %, the film is caused to have poor stretch property, lower heat resistance and less strength (column 5, lines 35-42). As such, it is believed that Sasaki teaches the entire applicable range of the void forming incompatible thermoplastic resin, and which appears to either inherently encompass the void ratio in thickness of the instant claimed invention, or it is an obvious optimization to one skilled in the art.

For claims 2 and 12, Sasaki teaches that the amount of the fine particles to be added to polyester film (B) most preferably 25-50 wt %, of the polyester film (B) (column 7, lines 5-8). Further, titanium oxide fine particles are most preferably used (column 6, lines 65-66), which is inherently a white pigment.

For claims 3 and 4, Sasaki teaches that the preferred apparent specific gravity of the polyester film is in the range of 0.6-1.2 (column 8 line 60 to column 9, line 1).

For claim 5, Sasaki teaches that at least one surface of the film has a dynamic hardness of preferably not more than 5.0 (column 9, lines 43-44). Further, Sasaki teaches that the suitable dynamic hardness and gloss can be adjusted (column 9, line 63 to column 10, line 18).

For claim 6, Sasaki teaches that the surface has a gloss of not less than 20% (column 9, lines 30-33).

For claims 7-10, Sasaki teaches that the void forming incompatible thermoplastic resins such as polymethylpentene and polystyrene for polyester film is known art (column 1, line 58 to column 2, line 14). Further, in Example 1, Sasaki shows that both polyolefin and polystyrene can be used together as void forming agents (column 14, lines 30-40).

For claim 11, while Sasaki does not expressly teach the melt viscosity ratio of polyolefin and polystyrene, it is noted that Sasaki teaches a porous polyester film forming process which is essentially the same as the instant claimed invention. As such, it is believed that a suitable viscosity ratio is either inherently disclosed by Sasaki, or an obvious optimization to one skilled in the art.

For claims 13 and 14, in Example 1, Sasaki shows that a suitable void forming agent contains 70 wt% polyester, 6 wt% polystyrene, 6 wt% polypropylene, and 18 wt% polymethylpentene (column 14, lines 30-40). Further, Layer A contains 40 wt% of the above prepared void forming agent is blended with 58 wt% PET resin (column 14, lines 45-48). As such, Sasaki's porous film in Example 1 clearly anticipates the range of the

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formulas of the instant claimed invention. Also, the embodiment shown in Example 1 clearly does not comprise polyethylene glycol.

For claims 15, 16 and 21, although Sasaki is silent about the spectral reflectance properties and the physical properties of polyester resin, such as the cyclic trimer content, the specific gravity and the retention of elongation of the polyester resin, it is noticed that the embodiment of the instant claimed invention is essentially the same as Sasaki's porous film, as set forth above. As such, it is believed that each of the aforementioned physical properties is either inherently disclosed, or an obvious optimization to one skilled in the art.

For claim 17, Sasaki teaches an embodiment of Layer A having 2 wt% titanium dioxide (column 14, line 49).

For claims 18 and 22, the recitation of intended uses of the porous polyester films fail to patentably distinguish the claimed invention.

For claim 19, it is believed that incorporating suitable amount of recyclable resin in a polymeric article is old and well known, motivated by the desire to reduce the cost of the raw material.

For claim 20, it is believed that applying a protective release layer comprising a curable silicone resin is also old and well known.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 703-605-4296. The examiner can normally be reached on 8:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

VSC
March 17, 2003

DANIEL ZIRKER
PRIMARY EXAMINER
GROUP 1900

1700

Daniel Zinker